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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/774,427	01/30/2001	Shunpei Yamazaki	07977/115003/US3251D1D1	3966

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EXAMINER

COLEMAN, WILLIAM D

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 10/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/774,427

Applicant(s)

YAMAZAKI ET AL.

Examiner

W. David Coleman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Application may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/206,637.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-529)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s): \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed July 5, 2002 have been fully considered but they are not persuasive.
2. Applicants contend that Wakai et al., U.S. Patent 5,821,137 herein known as Wakai fails to teach the claimed invention, namely providing n-type and p-type impurities formed adjacent to said source and drain region.
3. In Response to Applicants contention that Wakai fails to disclose n-type and p-type impurities formed adjacent to said source and drain region, please see FIG. 4, where n-type impurity source 66 is adjacent to p-type impurity. Although Applicant contends that the regions are disclosed a lightly doped drain (LDD), this does not preclude these features from the rejection of cited art.
4. Applicants contend that judicially created obviousness-type double patenting rejection over U.S. Patent No. 6,194,762 of claims 1-11 is improper because the '762 patent does not teach that an electrode is connected to at least one of the pair portions containing n-type and p-type electrodes and that this connection is not well known.
5. In response to Applicants contention that it is not well known to provide an electrode to at least one of the pair portions containing n-type and p-type impurity regions, Wakai fully discloses the use of electrodes connected to at least one of the pair portions containing n-type and p-type impurities. Since Wakai is prior art, it is therefore well known.

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who

has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 8, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Wakai et al., U.S. Patent 5,821,137.

8. Pertaining to claims 8 and 9, Wakai discloses a semiconductor device as claimed. See **FIG. 4E**, where Wakai teaches a semiconductor device having at least one thin film transistor formed over a substrate, said thin film transistor comprising:

a semiconductor layer **66** having a source and drain region (not numbered) and a channel forming region therebetween;

a gate electrode **62** adjacent to said channel forming region with a gate insulating layer **64** interposed therebetween,

wherein said channel forming region directly contacts with source and drain regions, and also in contact with the channel region,

wherein a pair of portions containing n-type and p-type impurities are formed adjacent to said source and drain region, and

wherein an electrode **79** is connected to at least one of said pair of portions.

9. Pertaining to claim 10, Wakai discloses wherein said channel forming region contains an impurity imparting one conductivity (please note that the LDD is around the channel forming region).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al., U.S. Patent 5,821,137 as applied to claims 8, 9 and 10 above, and further in view of Katayama et al., U.S. Patent 4,613,382.

12. Wakai discloses a semiconductor device substantially as claimed as discussed above. However, Wakai fails to disclose wherein the semiconductor film contains an impurity containing hydrogen and halogen. Katayama teaches wherein the semiconductor film contains hydrogen and halogen. See column 1, lines 11-57 of Katayama, where a polysilicon film contains both hydrogen and a halogen (i.e., fluorine, chlorine, bromine, and iodine). In view of Katayama, it would have been obvious to one of ordinary skill in the art to incorporate a hydrogen and halogen into the semiconductor device of Wakai because it has a reduced influence of the grain boundaries (column 1, lines 36-38).

***Double Patenting***

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

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harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

14. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

15. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

16. Claims 1-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,194,762. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of U.S. Patent 6,192,762 does not explicitly teach a gate electrode adjacent to the channel forming region with a gate insulating layer interposed therebetween having an electrode connected to at least one of said pair of portions. However, these are well known and necessary features or components of MOS thin film transistors.

17. Claims 8-11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,194,762. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-5 of U.S. Patent 6,194,762 do not explicitly teach an active matrix circuit and a driver circuit having a first and second thin film transistors. However, the use of first and second thin film transistors in the driver circuit and the active matrix circuit are well known.

***Conclusion***

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

19. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 703-305-0004. The examiner can normally be reached on 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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WDC  
October 4, 2002

W. David Coleman  
Examiner  
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A handwritten signature in black ink, appearing to read "W. David Coleman", with a long horizontal flourish extending to the right.